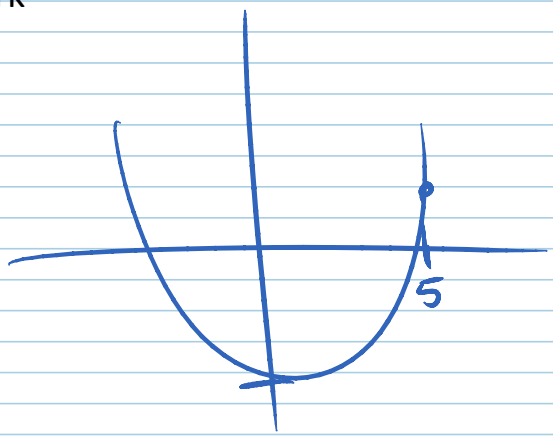
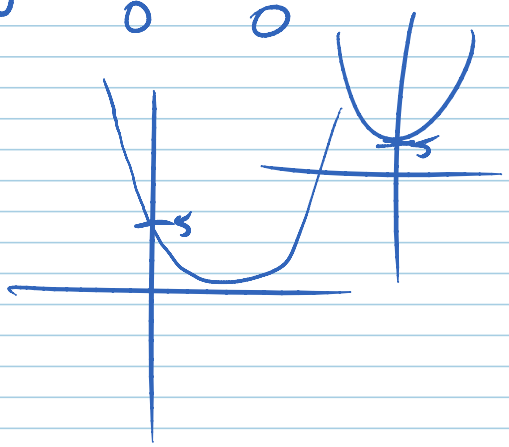
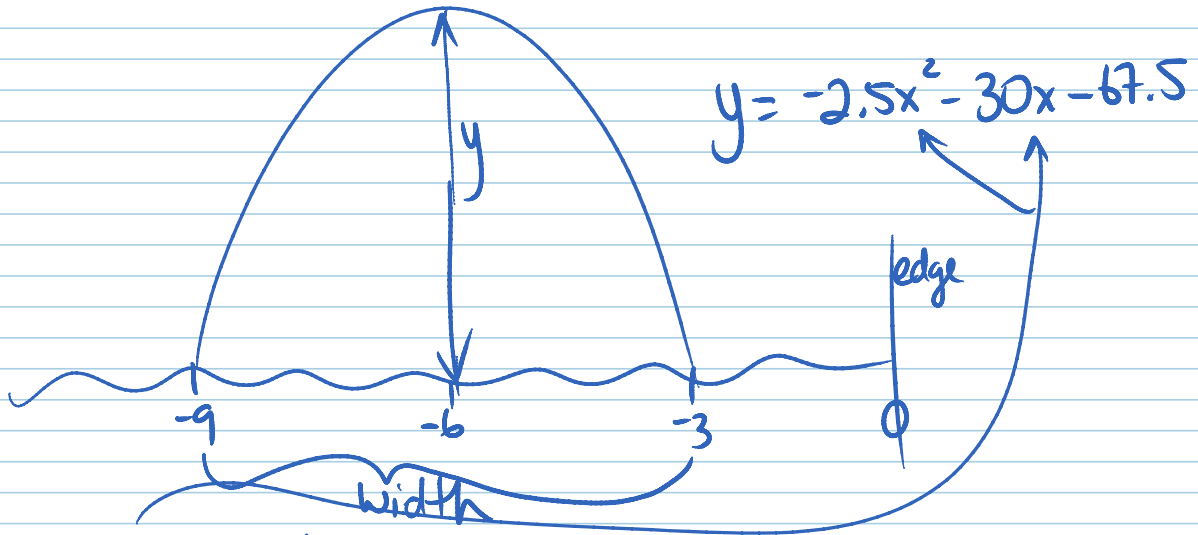


$y = 3x^2 + 2x + 5$

0 0



(8)



a)

x	-9	-8	-7	-6	-5	-4	-3
y	0	12.5	20	22.5	20	12.5	0

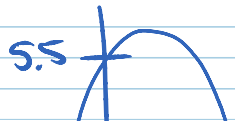
b) 22.5 m

c) $-3 - -9 = 6$ m

d) D: $-9 \leq x \leq -3$, $x \in R$

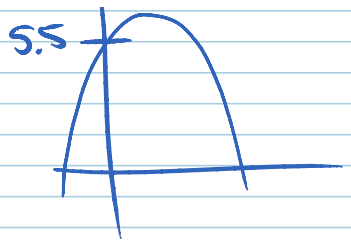
R: $0 \leq y \leq 22.5$, $y \in R$

(9)



$y = ax^2 + bx + c$ (c: y-int)

(11)



$y = ax^2 + bx + c$

$a = -3$ or $-\frac{1}{3}$

narrower — wider

$y = -3x^2 + 5.5$ ~~$+5.5$~~ $\qquad y = -\frac{1}{3}x^2$

(13) $y = x^2 - 5x$ $\qquad (0,0)$

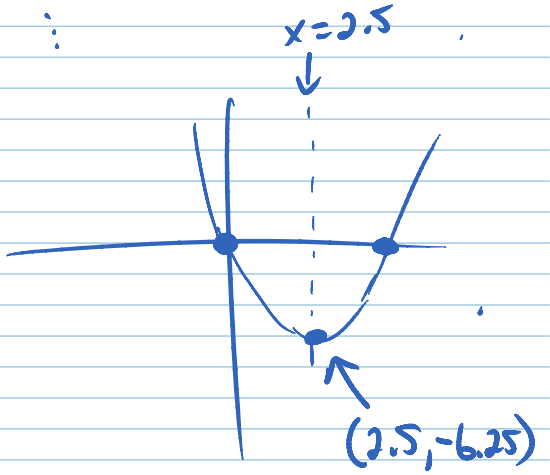
a) other x-int : $y = 0$

$0 = x^2 - 5x$

$= x(x-5) = 0$

$x = 0$ or $(x-5) = 0$

$x = 5 \rightarrow (5,0)$



b) axis of sym $= \frac{5+0}{2} = 2.5$

$x = 2.5$

c) vertex $x = 2.5 \rightarrow y = (2.5)^2 - 5(2.5)$

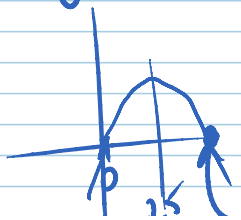
$= -6.25$

vertex $(2.5, -6.25)$

d) $y = -3x^2 + kx$ axis of sym $x = 2.5$

y-int $x = 0$ $\qquad y = -3(0) + k(0) = 0$

y-int $= 0$



so $y = 0, x = 5$

$-3(5)^2 + k(5)$

so

$0 = -3(5)^2 + k(5)$

$0 = -75 + 5k$

$75 = 5k$

$15 = k$

e) $y = -3x^2 + 15x$

$x = 2.5$ $\quad x = 2.5$

$y = -3(2.5)^2 + 15(2.5)$

$y = 18.75$

$(2.5, 18.75)$